

DEPARTMENT OF COMMERCE  
B.COM(COMPUTER APPLICATIONS/GENERAL)

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|------------------------|---|
| DEPARTMENT OF COMMERCE | Acquired the knowledge in industry, business and commerce, skills in accountancy ,taxation and business laws  |
| PROGRAMME OUTCOMES     | <ul style="list-style-type: none"> <li>• Enabling students to develop a positive attitude towards commerce as an interesting and valuable subject of study.</li> <li>• A student should get a relation ability to pursue advanced studies and research in commerce and management.</li> <li>• I understanding of commerce concepts and concerned accounting principles, and should be able to follow the patterns involved in corporate accounting</li> <li>• Ability to analyze a problem, identify and define the computing requirements, which may be appropriate to its solution in industry and business.</li> <li>• Introduction to various courses like insurance,digital marketing, mutual funds,GST.</li> <li>• Enhancing students' overall development and to equip them with business laws, consumer protection act, modeling abilities, problem solving skills, creative talent and power of communication necessary for various kinds of employment.</li> <li>• The skills of observations and drawing logical inferences from the various business solutions.</li> <li>• Analyzed the given data logically,critically and systematically to draw the objective conclusions</li> <li>• Been able to think creatively to propose novel ideas in explaining facts and figures or providing new solutions to the problem</li> <li>• Realized how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable development of the business.</li> </ul> |

DEPARTMENT OF COMMERCE  
B.COM(C.A/G) I-YEAR, SEM-I  
PAPER –I01

| COURSE TITLE           | HPW  |
|------------------------|--|
| FINANCIAL ACCOUNTING-I | 5 THEORY   |
| COURSE OUTCOMES        | <ul style="list-style-type: none"> <li>• To acquire conceptual knowledge of basics of accounting and preparation of finalaccounts of sole trader.</li> <li>• Accounting introduction - differences between book keeping and accountancy</li> <li>• Introduction of accounting standards and cycle</li> <li>• Preparation of cash book,bank reconciliation statements</li> <li>• Preparation of final accounts</li> </ul> |

PAPER –I02

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|--------------------------------------|--|
| COURSE TITLE                         | HPW  |
| BUSINESS ORGANISATION AND MANAGEMENT | 5 THEORY   |
| COURSE OUTCOMES                      | <ul style="list-style-type: none"> <li>• To acquaint the students with the basics of Commerce and Business concepts and functions, forms of Business Organization and functions of Management.</li> <li>• Types of organisations, procedures and policies in establishment of organisations.</li> <li>• Registration of a Joint Stock Company.</li> <li>• Management, scientific management ,planning</li> <li>• Coordination and cooperation, Authority and responsibility</li> </ul> |

PAPER – 103 (G)

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|-----------------|---|
| COURSE TITLE    | HPW   |
| FOREIGN TRADE   | 5 THEORY  |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• To gain knowledge of India’s foreign trade procedures policies, and international institutions.</li> <li>• To get knowledge about trade policy.</li> <li>• Balance payments.</li> <li>• Growth and significance of Trade Blocs</li> <li>• To acquire knowledge about international economic institutions such as world bank, IMF,UNCTAD etc.,</li> </ul> |

DEPARTMENT OF COMMERCE  
B.COM (C.A/G)I - YEAR, SEM-II  
PAPER - 201

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|---------------------------|---|
| COURSE TITLE              | HPW   |
| FINANCIAL ACCOUNTING - II | 5THEORY   |
| COURSE OUTCOMES           | <ul style="list-style-type: none"> <li>• To acquire accounting knowledge of bills of exchange and other business accounting methods.</li> <li>• To learn accounting procedures in Bills of Exchange and Consignments.</li> <li>• Preparation of accounts of profit and nonprofit organizations.</li> <li>• Conversion of accounts from single entry to double entry book keeping system.</li> </ul> |

PAPER - 202

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| COURSE TITLE | HPW |
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|-----------------|---|
| BUSINESS LAWS   | 5 HOURS   |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• To understand basics of contract act, sales of goods act, IPRs and legal provisions applicable for establishment, management and winding up of companies in India.</li> <li>• To understand the basics of consumer protection act,</li> <li>• Students to get knowledge about intellectual property rights and its registration and other government procedures.</li> <li>• Management of companies and meetings, corporate governance, corporate social responsibility.</li> <li>• Conducting shareholders meetings, rules and regulations</li> </ul> |

B.COM (G) - 203

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|--------------------------------|---|
| COURSE TITLE                   | HPW   |
| BANKING AND FINANCIAL SERVICES | 5 HOURS   |
| COURSE OUTCOMES                | <ul style="list-style-type: none"> <li>• To familiarize with Fund-based, Non-fund-based Financial Services and Banking activities.</li> <li>• To acquire the knowledge in banking sector</li> <li>• To get knowledge in the norms of banking and relationship between banker and various types of costumers.</li> <li>• To gain acquaintance in negotiable instruments.</li> <li>• To get future knowledge in financial services and its significance and application.</li> </ul> |

DEPARTMENT OF COMMERCE  
B.COM(C.A/G) II -YEAR , SEM-III  
PAPER - 301

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|---------------------|--|
| COURSE TITLE        | HPW  |
| ADVANCED ACCOUNTING | 5 THEORY   |
| COURSE OUTCOMES     | <ul style="list-style-type: none"> <li>• To acquire accounting knowledge of partnership firms and joint stock companies.</li> <li>• Preparation of capital accounts in fixed and fluctuating , admission of a partner, death, retirement, goodwill treatment.</li> <li>• Corporate companies , share issue, debentures issue, forfeiture of shares</li> <li>• Preparation of final accounts of companies.</li> </ul> |

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|  | <ul style="list-style-type: none"> <li>Valuation of goodwill and accounting treatment.</li> </ul> |
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PAPER - 302

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| COURSE TITLE        | HPW  |
| BUSINESS STATISTICS | 5 THEORY   |
| COURSE OUTCOMES     | <ul style="list-style-type: none"> <li>To inculcate analytical and computational ability among the students.</li> <li>Importance of statistics in business decisions.</li> <li>Data collection – primary and secondary, editing and tabulation ,diagrammatic and graphic presentation</li> <li>Analysis of data by using statistical methods.</li> </ul> |
| SEC PAPER           | FUNDAMENTALS OF DIGITAL MARKETING AND WEB DESIGN   |
| COURSE TITLE        | HPW  |
| DIGITAL MARKETING   | 2 THEORY   |
| COURSE OUTCOMES     | <ul style="list-style-type: none"> <li>To make students to understand Foundation of digital marketing.</li> <li>To make students to understand the Fundamentals of Web design and Analytics.</li> <li>Online and mobile marketing – tools , setup and foundation</li> <li>CRO- GOOGLE analytics</li> </ul>   |

B.COM (G) PAPER - 304

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|------------------------------------|---|
| COURSE TITLE                       | HPW   |
| FINANCIAL INSTITUTIONS AND MARKETS | 5 THEORY  |
| COURSE OUTCOMES                    | <ul style="list-style-type: none"> <li>To familiarize with various Financial Institutions and Markets</li> <li>To understand Indian financial system – commercial banks, venture capital</li> <li>Money market – Monetary policy</li> <li>Debt markets - government and non-government bonds</li> </ul> |

DEPARTMENT OF COMMERCE  
B.COM II -YEAR , SEM-IV

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| COURSE TITLE   | HPW   |
| Social Media Marketing Search Engine Optimization & Online Advertising | 2 THEORY  |
| COURSE OUTCOMES  | <ul style="list-style-type: none"> <li>• To make students to understand the Social Media marketing.</li> <li>• To make students to understand the Search engine optimization and online advertising.</li> <li>• Marketing and monetising on youtube , facebook and twitter analytics</li> <li>• Social engine optimization (SEO) remarking with google</li> </ul>   |
| PAPER - 402  |   |
| COURSE TITLE   | HPW   |
| INCOME TAX   | 5 THEORY  |
| COURSE OUTCOMES  | <ul style="list-style-type: none"> <li>• To acquire conceptual and legal knowledge about Income Tax provisions relating to computation of Income from different heads with reference to an Individual Assessee..</li> <li>• Direct and indirect incomes, agricultural incomes and non-agricultural incomes and heads of income</li> <li>• Students learn computation of income different heads like salaries, house property, business or professional incomes, capital gains and other sources.</li> </ul> |
| PAPER - 403  |   |
| COURSE TITLE   | HPW   |
| BUSINESS STATISTICS II   | 5 THEORY  |
| COURSE OUTCOMES  | <ul style="list-style-type: none"> <li>• To inculcate analytical and computational ability among the students.</li> <li>• To learn business predictions by using regression analysis.</li> <li>• Focusing on construction of index numbers and uses.</li> <li>• Time series analysis – implementing in business</li> </ul>  |
| PAPER –404 (GEN)   |   |
| COURSE TITLE   | HPW   |
| CORPORATE ACCOUNTING   | 5 THEORY  |
| COURSE OUTCOMES  | <ul style="list-style-type: none"> <li>• To acquire knowledge of AS-14 and preparation of accounts of banking and insurance companies.</li> <li>• The role of liquidator in winding up of a company and preparation of accounts (closure)</li> <li>• As-14 as per amalgamation, absorption and reconstruction</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>• Maintaining of statutory reserves and accounts in bank accounts.</li> <li>• Preparation of insurance companies accounts and claims</li> </ul> |
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DEPARTMENT OF COMMERCE  
B.COM (C.A/G) III -YEAR , SEM-V

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|-------------------------|------|---|
| 501                     | SEC- |   |
| COURSE TITLE            |      | HPW   |
| BUSINESS ECONOMICS      |      | 4 THEORY  |
| COURSE OUTCOMES         |      | <ul style="list-style-type: none"> <li>• To acquire knowledge for application of economic principles and tools in business practices.</li> <li>• To understand Demand and supply analysis – importance of various elasticity of demand and supply</li> <li>• To study cost and revenue relationships ,assumptions ,uses and limitations</li> </ul>                              |
| PAPER 502               |      |   |
| COURSE TITLE            |      | HPW   |
| COST ACCOUNTING         |      | 5 THEORY  |
| COURSE OUTCOMES         |      | <ul style="list-style-type: none"> <li>• To make the students acquire the knowledge of cost accounting methods.</li> <li>• To understand students about good cost accounting system and differences between cost accounting with other accounts.</li> <li>• Students to learn cost accounting techniques and methods.</li> </ul>  |
| PAPER 503               |      |   |
| COURSE TITLE            |      | HPW   |
| COMPUTERISED ACCOUNTING |      | 3 THEORY + 4 PRACTICALS   |
| COURSE OUTCOMES         |      | <ul style="list-style-type: none"> <li>• To make the students to acquire the knowledge of computer software</li> <li>• Creation of company through tally erp 9</li> <li>• Creation of groups and ledgers</li> <li>• Maintaining stock keeping units</li> <li>• Recording voucher entries</li> <li>• Management of accounts receivables and payables and MIS reports.</li> </ul> |
| PAPER – 504             |      |   |

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| COURSE TITLE    | HPW  |
| E COMMERCE      | 3 THEORY+4 PRACTICAL   |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• To acquire conceptual and application knowledge of ecommerce.</li> <li>• E-Marketing – E-Advertising - E-Banking - Mobile Commerce - E-Trading - E-Learning - E-Shopping</li> <li>• .Frame work of e commerce</li> <li>• Consumer oriented e commerce applications and electronic data interchange .</li> <li>• E marketing techniques .</li> </ul> |
| PAPER-505 (gen) |  |
| COURSE TITLE    | HPW  |
| AUDITING        | 5 THEORY   |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• To understand meaning and elements of auditing and gain knowledge for execution of audit.</li> <li>• Student has to distinguish internal audit, internal control and internal check.</li> <li>• Differences between auditing and vouching.</li> <li>• Preparation of audit reports.</li> </ul>  |

DEPARTMENT OF COMMERCE

B.COM(C.A/G) III YEAR, SEM VI

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| PAPER - 601                             |  |
| COURSE TITLE                            | HPW  |
| RESEARCH METHODOLOGY AND PROJECT REPORT | 2 THEORY + 4 PRACTICALS  |
| COURSE OUTCOMES                         | <ul style="list-style-type: none"> <li>• To introduce the basics of conducting research in social sciences.</li> <li>• Procedure involved in conducting social research i.e., identification of problem , review of literature, identification of research gap, topic selection, development of objectives of the study.</li> <li>• Collection of data, interpretation of data with the help of statistical tools , report writing, conclusion, limitations of the study.</li> </ul> |
| PAPER - 602                             |  |
| COURSE TITLE                            | HPW  |

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| COST CONTROL AND MANAGEMENT ACCOUNTING | 5 THEORY  |
| COURSE OUTCOMES                        | <ul style="list-style-type: none"> <li>• To be acquaint with Cost Control techniques, Managerial Accounting decisionmaking techniques and reporting methods.</li> <li>• To acquire knowledge about marginal costing , budgets and budgetary control</li> <li>• Interpretation of financial statements – business decisions</li> </ul>   |
| PAPER - 603                            |   |
| COURSE TITLE                           | HPW   |
| THEORY AND PRACTICE OF GST             | 5 THEORY  |
| COURSE OUTCOMES                        | <ul style="list-style-type: none"> <li>• To equip the students with the knowledge regarding Theory and Practice of GST.</li> <li>• GST-Introduction, VAT on capital goods.</li> <li>• Recording of Advanced entries, GST Adjustment and Filing of returns.</li> <li>• Recording of advanced entries and migration</li> <li>• Generating GSTR- Report in ERP</li> <li>• GSTIN/UIN - Creation of GST Duty ledgers.</li> </ul>                           |
| PAPER –604(GEN)                        |   |
| COURSE TITLE                           | HPW   |
| ACCOUNTING STANDARDS                   | 5 THEORY  |
| COURSE OUTCOMES                        | <ul style="list-style-type: none"> <li>• To make the students acquire the knowledge and application of Indian Accounting Standards</li> <li>• Students to be equipped with accounting theory, principles, standards.</li> <li>• Adoption of accounting standards, preparation of financial reports.</li> <li>• Business acquisitions and consolidations – accounting standards</li> <li>• Concepts of financial reports and recent trends.</li> </ul> |

## BBA

### PROGRAM OUTCOMES (POS) AT THE END OF THE BBA PROGRAMME

After completing three years for Bachelors in Business Administration (BBA) program, a graduate will

PO 1. Acquire adequate knowledge in the Principles, Theories and Models of Business Management, Accounting, Marketing, Finance, IT, Operations and Human Resource.

PO 2. Develop managerial, behavioral, strategic thinking, commercial awareness and mentoring skills.

PO 3. Analyze and comprehend the applicability of management principles in solving complex business problems

PO 4. Identify, describe, propose, synthesize and present business reports through SPSS, Tally and MS-Office as per the industrial needs

PO 5. Demonstrate English proficiency for Business Communication for effective and Professional business management.

PO 6. Obtain the ability to lead a team and develop group behaviour in achievement of individual, group and organizational goals.

PO 7. Develop appropriate entrepreneurial skills so as to become competent business entrepreneurs.

PO 8. Recognize and solve business problems in an ethical manner for continuous development of business venture.

PO 9. Develop lifelong learning skills with interdisciplinary approach towards sustainable development.

#### PROGRAM EDUCATIONAL OBJECTIVES OF BBA

PEO1: Graduates can pursue PG and Research (Higher studies) Specialized In Finance

PEO2: Graduates can join professional career in field of finance, FMCG, retail, banking, pharma, financial institutions, stock exchanges and mortgage organizations and allied industries (Employability).

PEO 3: Graduates should be able to start their own business venture or exhibit entrepreneurial skills for their employer organization (Entrepreneurship).

PEO 4: Graduates will develop positive attitude and life skills which will enable them to become a multi facet personality with a sense of Environmental consciousness and responsible Citizen with moral and ethical values (Ethical and committed citizen).

#### PROGRAM SPECIFIC OUTCOMES (PSO's) OF BBA

At the end of the Programme

PSO1: Students will acquire and demonstrate analytical and problem solving skills with in various disciplines of management, business, accounting, economics, finance, marketing, English and Languages.

PSO 2: Students will attain proficiency in analyzing the opportunities and challenges of global and dynamic business environment.

PSO 3: Communicate in a business context in a clear, concise, coherent and professional manner.

PSO 4: Ability to design, develop and apply business models and strategies to address business problems with special reference to finance and the needs and interest of various stakeholders.

#### BBA I yr I SEMESTER

Course Name: ENVIRONMENTAL STUDIES

CO1 Explain the key concepts and methods from ecological and physical sciences and apply them in solving environmental problems

CO2. Critically examine all the aspects of environmental studies such as environmental pollution health issues, legislation and create informed opinions about how to interact with the environment personally and societally.

Course Name: FUNDAMENTALS OF BUSINESS ECONOMICS

Course Outcomes:

CO1 To understand and recognize the basic concepts of Economics and its importance. CO2 To analyse the importance of study of Consumer Behaviour towards Utility analysis.

CO3 To apply various methods (Supply, Demand, Price.etc) to behavior and social Phenomena.

CO4 To Develop in-depth competencies towards Production and various costs involved. CO5 The Different types of markets & how prices are determined under those markets.

Course Name: Principles of Management

Identify and communicate the purpose and functions of management.

To teach students the fundamental of management as they are practiced in practical life daily.

Explain key factors of managerial skills and• various implications of management theories.

BBA (FM) I yr SEMESTER-II

Course Name: FUNDAMENTALS OF ACCOUNTING

Course Outcomes:

C01 To discuss the basic concepts in Accounting

CO2 To dramatize the recording of transactions

CO3 To prepare the subsidiary books

CO4 To sketch the Bank reconciliation statement

CO5 To construct the Trial Balance & Final Accounts.

Organizational Behavior

Course Outcomes: 1. Analyze the organizational behaviour concepts, and correlate organizational behavior concepts with individual and group behaviour.

2. Evaluate personality types, perception and learning process on human behavior

3. Recognize the application of motivational theories in practical terms.

Business Statistics

Course Outcomes:

1. To understand the basics of statistics - concept of population and sample & to use frequency distribution to make decision.

2. To understand and to calculate various types of averages and variation.

3. To understand Correlation and use of regression analysis to estimate the relationship between two variables and its applications.

4. To understand the concept - Time Series and its applications in business.
5. To understand the concept - Index numbers and applications in business.

Financial Accounting :

Course Outcomes :

- To learn the basic types of accounts and its rules
- To understand the final accounts of business and non trading concerns
- To know the method of Voucher entries to be entered in tally software

#### BBA (FM) II year III SEMESTER

Course Name: PERSONALITY DEVELOPMENT & MANAGERIAL SKILLS

CO1 To analyse the conceptual framework of Personality Development. CO2 To understand the intricacies of developing an ideal personality.

Course Name: PRINCIPLES OF HUMAN RESOURCE

MANAGEMENT Course Outcomes:

CO1 To classify the concepts, problems and techniques applicable to the human resource functions in organizations.

CO2 To analyze the complexities involved in getting qualitative workforce into the organization.

CO3 To experiment the training and development methods to upgrade the skills of employees.

CO4 To apply the techniques of evaluating and compensating personnel in organizations. CO5 To administer innovative HRM Strategies for new millennium.

Financial Management:

Course Outcomes

1. Able to explain accounting statements and can analyse the financial statement with the help of ratio analysis
2. Apply the concept of time value of money for any investment decision.

3. Assess the capital structure of a firm and state its impact on firm's profitability.

Course Name: COST & MANAGEMENT ACCOUNTING

CO1 To Equip with Fundamental of Cost Accounting

CO2 To apply Application of Standard Costing and Variance Analysis for analyzing the financial Position of business.

CO3 To Illustrate Marginal Costing for analyzing the financial Position of Business

CO4 To analyze the Financial statement analysis using Comparative statement and Ccommon size statement analysis.

CO5 To apply Application of Financial ratios for analyzing the financial statements.

Course Name: LEGAL ASPECTS OF

BUSINESS Course Outcomes:

CO1 To Understand the terminologies of law with special reference to Business.

CO2 To identify how to discharge a contract and to know the consequences of Breach of a Contract.

CO3 To Identify the fundamental legal principles behind of contract of sale of goods 1930.

CO4 To able to have a basic understanding of the laws relating to Companies act 2013.

CO5 To Learn how to pursue the consumer rights under Consumer Protection Act 1982 and Intellectual Property Rights.

Course Name: BUSINESS STATISTICS Using SPSS

CO1 To demonstrate the data collection methods and graphical presentation of data.

CO2 To compute and interpret various measures of Central tendency.

CO3 To compute and interpret various measures of Dispersion.

CO4 To give an understanding about the nature and degree of concentration of observations about the mean.

CO5 To illustrate the techniques of analysis of bivariate distribution.

Course Name: CAPITAL MARKETS OPERATIONS

Course Outcomes:

CO1 To Understand the basics of Indian Securities Markets

CO2 To summarize and outline different roles and relations of Trading members

CO3 To analyze the Trading System and its Management

CO4 To acquire knowledge on clearing and settlement process

CO5 To recognize fundamental valuation concepts

BBA (FM) II yr SEMESTER IV

MS EXCEL FOR BUSINESS

CO1 To familiarize oneself with Excel's Basic features and gain skills on data visualization using MS Excel.

CO2 To perform Financial Modeling using MS Excel.

Personality Development:

COURSE OUTCOMES:

1. To make the students aware about the dimensions and importance of effective personality.
2. To understand personality traits and formation and vital contribution in the world of business .
3. To make the students aware about the various dynamics of personality development

Course Name: RESEARCH METHODOLOGY

CO1 To acquaint the students with basics of Research and Types of Research.

CO2 To provide clear distinction between Probability and Non – Probability Sampling Techniques.

CO3 To familiarize students with Methods of Data Collection.

CO4 To orient students about Hypothesis and its Tests.

CO5 To train the students with Report – Writing and its Importance along with research ethics.

Course Name: FUNDAMENTALS OF FINANCIAL MANAGEMENT

CO1 To equip with Fundamental of Financial Management and Time value of Money.

CO2 To gain Knowledge of Capital Budgeting decisions and techniques for evaluating capital budgeting alternatives.

CO3 To acquaint with Capital Structure Theories and their Applications.

CO4 To acquire Knowledge of cost of capital, importance of cost of capital and calculation of cost of capital.

CO5 To analyze the dividend decisions, major forms of dividends theories related to dividend decisions.

Course Name:MANAGEMENT SCIENCE

Course Outcomes:

CO1 To identify the location to set up a plant and layout with required process technologies.

CO2 To Recognize the Quality control tools and techniques.

CO3 To Recognize the work study, Plant Layout and Plant Maintenance.

CO4 To analyse and implement problem solving approach using linear programming.

CO5 To analyse and implement problem solving approach using Transportation Problems.

Course Name:E-BUSINESS

Course Outcomes:

CO1 To introduce the concept of E-Business and their different types.

CO2 To discuss the security aspects of E-Business.

CO3 To state all the online payment system.

CO4 To analyze the different marketing technologies available. CO5 To illustrate the cyber laws related to E-Business.

Course Name: DERIVATIVES MARKET OPERATIONS

Course Outcomes:

CO1 To Understand the basics of Derivative Markets and the Stock Indices Movements

CO2 To differentiate between Futures and Forwards Contracts and evaluate the underlying asset

CO3 To analyze the Options Contracts and models of Option Pricing

CO4 To outline the clearance and settlement procedures of Derivative Market

CO5 To gain Knowledge and recognize laws in concern with Derivatives and its Accounting

BBA (FM) III Year SEMESTER V

Course Name: EVENT MANAGEMENT

COURSE OUTCOMES:

CO1 To describe all the components and various roles involved in planning, organizing, running and evaluating an event.

CO2 To apply the theory and skills necessary to professionally plan, organize and run a business event by analyzing the various measures which an event organizer should follow to stop problems in an event.

Course Name: INTRODUCTION TO FINANCIAL MARKETS

Course Outcomes:

On successful completion of this course, the students should have understood

CO1 To Understand the basics of Financial Markets

CO2 To analyse the Primary Market and procedure of Primary Market

CO3 To analyse the Secondary Market and procedure of Primary Market

CO4 To summarize Derivative markets in India

CO5 To outline the Financial Statements of the organisations

Course Name: ENTREPRENEURIAL DEVELOPMENT

Course Outcomes:

- CO1 To analyze the business environment opportunity recognition and the business idea generation.
- CO2 To describe how to acquire necessary resources and organizational matters of new venture creation process.
- CO3 To develop the ability to discern distinct entrepreneurial traits.
- CO4 To recognize the parameters to assess opportunities and constraints for new business ideas.
- CO5 To predict the opportunities provided by the institutions and financial organizations to start up an entrepreneurship.

Course Name: COMMODITY MARKET ANALYSIS

Course Outcomes:

- CO1 To equip themselves with the basics of Commodity Derivatives at Global and Indian Level
- CO2 To understand the Types of Instruments in Commodity Derivative Market CO3 To analyze the Commodity Derivative Exchange platform and its structure
- CO4 To identify different strategies of Hedging, Speculation and Arbitrage
- CO5 To recognize different rules, laws and its implication in regard to Commodity Market Operations

Course Name: ADVERTISING & BRAND MANAGEMENT

Course Outcomes:

- CO1 To discuss the Concept of Advertising, History, functions of advertising.
- CO2 To analyze the different Types of Advertising, department, designing advertising copy and strategy used by the marketers.
- CO3 To recognize the Concept of Branding, strategies, brand positioning.
- CO4 To relate the Integration of advertising and Branding in marketing.
- CO5 To demonstrate the designing and implementing brand strategies.

Course Name: DISTRIBUTION AND SUPPLY CHAIN

MANAGEMENT Course Outcomes:

- CO1 To evaluate the Distribution functions as integral part of marketing functions in a business firm.
- CO2 To assess the role Marketing Channels in Supply Chain Management.

- CO3 To explain the basic elements of supply chain management.
- CO4 To develop ability to analyze Demand & Supply management for SCM.
- CO5 To describe the recent trends in SCM.

Course Name: MARKETING OF SERVICES

Course Outcomes:

- CO1 To analyze and develop students' understanding of those aspects of marketing of particular relevance to service producing organizations.
- CO2 To recognize the present strategies and approaches for addressing these challenges.
- CO3 To develop students' abilities to identify services decision problems, ascertain alternatives, define crucial issues, analyze, make decisions and plan the implementation of these decisions.
- CO4 To employ the basic knowledge on challenges in distribution process
- CO5 To give an overview and analyze the present scenario on the services in the organized retailing.

Course Name: FINANCIAL SYSTEM AND INSTITUTIONS

Course Outcomes:

- CO1 To discuss the functioning of financial information systems in the context of the broad structure of banks & other financial markets which apply the knowledge gained in communication and collaboration with management in the financial services domain.
- CO2 To develop the skills for eligibility criteria for membership of NSE, important regulatory aspects and valuation concepts.
- CO3 To outline the Banking System in India
- CO4 To apply key financial concepts to value financial securities and products. CO5 To explain the concept of Indian Money Markets and Capital Markets.

Course Name: INTERNATIONAL FINANCE

Course Outcomes:

- CO1 To revise the Concept of International Financial Management.
- CO2 To discuss the Concept of International Financial Markets.
- CO3 To identify with the Concept of International Financial Institutions.
- CO4 To recognize the concept of International Financial Instruments and FDI. CO5 To assess multinational corporate decisions in Global Markets

Course Name: INVESTMENT MANAGEMENT

Course Outcomes:

- CO1 To recognize Investment and elements of investment decisions like factors influencing, risks involved etc.
- CO2 To examine different Types of investors and types of speculators.
- CO3 To develop the Knowledge and Skills about Stock exchanges in India.
- CO4 To analyze investment options like derivatives ,Futures ,forward and swaps. CO5 To illustrate Regulatory frame work of capital markets in India.

Course Name: HRD: SYSTEMS & STRATEGIES

Course outcomes:

- CO1 To identify the emergence of concept of HRD.
- CO2 To point out the possible structures and functions for identifying training in organizations.
- CO3 To describe the applicable methods of training evaluation, ROI of training, and apply them to the workplace.
- CO4 To design and evaluate the HRD Programs.
- CO5 To analyse the extent of Cultural diversity in workforce and Practices of HRD.

Course Name: TRAINING & DEVELOPMENT

Course Outcomes:

- CO1 To examine the concepts of training and development.
- CO2 To illustrate how to design and Implement the training program.
- CO3 To show insights into evaluate a training program.
- CO4 To analyses the trends in employee and organization development programs.
- CO5 To analyses the impact of Training & Development towards Organizational Development.

Course Name: MANAGEMENT OF INDUSTRIAL RELATIONS

Course Outcomes:

- CO1 To gain insights into conceptual knowledge on industrial relations.
- CO2 To appraise the extent to which the workers can participate in management.
- CO3 To interpret the mechanism for resolving industrial disputes.
- CO4 To realize the provision for payment of wages.
- CO5 To discuss the legal framework of factories act.

Course Name: COMPENSATION MANAGEMENT

.Course Outcomes:

- CO1 To discuss the principles and importance of compensation management.
- CO2 To relate the bases of compensation.
- CO3 To appraise the present trends in calculation of incentives and other pay systems.
- CO4 To develop and design compensation system.
- CO5 To identify the contemporary compensation practices

Course Name: CUSTOMER RELATIONSHIP MANAGEMENT

Course Outcomes:

- CO1 To be aware of the nuances of customer relationship.
- CO2 To analyze the CRM link with the other aspects of marketing.
- CO3 To impart the basic knowledge of the Role of CRM in increasing the sales of the company.
- CO4 To make the students aware of the different CRM models in service industry. CO5 To make the students aware and analyze the different issues in CRM.

BBA (FM) III Year SEMESTER

Course Name: BUYUER BEHAVIOUR

Course objective:

Course Outcomes:

CO1 To explain the concept of Buyer Behaviour & describe buyer research process in detail.

CO2 To evaluate the factors affecting buyer behaviour in detail. CO3 To analyze the consumer decision process.

CO4 To assess the impact of consumer's motivation, personality on the buying behaviour. CO5 To impart the basic knowledge of consumer protection rights.

Course Name: INTERNATIONAL MARKETING

Course Outcomes:

CO1 To recognize the Concept and scope of International marketing.

CO2 To give basic knowledge of Dynamic Environment of International marketing, International STP.

CO3 To identify with the International Product, pricing, place and promotional strategies.

CO4 To recognize International Market channels & Documentation required in international marketing.

CO5 To give the basic knowledge on the international institutional infrastructure and documentation.

Course Name: FINANCIAL SERVICES

Course Objective:

Course Outcomes:

- CO1 To recognize the operations of financial service in India.
- CO2 To give the Concepts of Leasing and Hire Purchasing.
- CO3 To give the Knowledge in Factoring and Forfeiting.
- CO4 To identify with the role of Venture Capital Financing in India.
- CO5 To Apply the skills used for credit rating of Organization.

Course Name: INTERNATIONAL FINANCIAL MANAGEMENT

Course Outcomes:

- CO1 To recognize the Concept of Foreign Exchange Markets.
- CO2 To Apply the Concept of International Parity Relations.
- CO3 To analyze the Risk and Management of Risk in international Financial Management.
- CO4 To apply the derivatives for Risk Management with special Reference to Currency.
- CO5 To give the Concept of International Tax Management

Course Name: SECURITY ANALYSIS & PORTFOLIO MANAGEMENT

Course Outcomes:

- CO1 To recognize the Process of investment management and Analyze Risk and Return.
- CO2 To analyze the Valuing equity and debt instruments.
- CO3 To apply skills in Measuring the portfolio performances.
- CO4 To give the Concept of CAPM.
- CO5 To analyze the performance of Portfolio and Mutual Funds.

Course Name: PROJECT WORK

Project Outcomes:

1. To enable students to apply the conceptual knowledge in a practical situation and to learn the art and science of conducting a study in a systematic way and presenting its findings in the form of report.
2. To identify, analyze, and solve problems creatively through sustained critical investigation.
3. To practice the skills, diligence, and commitment to excellence needed to engage in lifelong learning.

Department of Chemistry

| S.N<br>O | S<br>e<br>m | COUR<br>SE<br>CODE | Course title  | Course outcomes  |
|----------|-------------|--------------------|---|--|
| 1        | I           | BS106              | Inorganic<br>,Organic<br><br>Physical,<br>General,<br>Physical<br>Chemistry - I | CO1- Explain various structural and bonding properties and theoretical knowledge for analysis of simple salt.<br><br>CO2 Explain e <sup>-</sup> displacement concepts, reaction of hydrocarbons, concept of aromaticity.<br><br>CO3-Explains behavior of gases Raoult's law , Henry's law, concept of surface tension and viscosity and laws of crystallography.<br><br>CO4- Explains various laws to understand atomic structure, explain bonding through hybridization, VSPER theory, concept of isomerism.  |
| 2        | I<br>I      | BS206              | Inorganic,<br>Organic,<br>Physical,<br>General<br><br>Chemistry - II            | CO1-Elaborate the properties oxides, ox acids, interhalogens and pseudo halogens with chemistry of zero groups. Elaborate the characteristic properties of d block<br><br>CO2-Explaining the classification and reaction for alkyl, aryl halides, showing preparation and properties for alcohols<br><br>CO3- Summarize the electrochemical concepts, their application and solve the problems.<br><br>CO4- Summarize the concepts based experiment in quantitative analysis. Write molecular representation & Isomerism in organic compounds. Solve problem in various concepts pertaining to colligative properties. |

|   |             |       |   |  |
|---|-------------|-------|---|--|
| 3 | I<br>I<br>I | BS306 | Inorganic,<br>Organic,<br>Physical,<br>General<br>Chemistry - III | <p>CO1 – Elaborate the characteristic properties of f block. Explain simple inorganic molecules. Explain preparation and properties for meta carbonyls and organo metallic chemistry.</p> <p>CO2- Elucidate the synthesis and reactivity of COOH and Nitro hydrocarbons, Amines, Cyanides and Isocyanides.</p> <p>CO3-Deduce reaction between fundamental terms in thermodynamics and make use of different laws of thermodynamic in different application. Solve problems on the concepts.</p> <p>CO4- Explain theories for conductor, semiconductors and insulators. Explain stability and reactions of carbanions, Elucidate phase equilibrium.</p>   |
| 4 | I<br>V      | BS406 | Inorganic,<br>Organic,<br>Physical,<br>General<br>Chemistry - III | <p>CO1- Summarize spectral magnetic properties &amp; Chemical reactants of Metal complexes, Outline role of essential elements in biological process. Classify hard and soft acids &amp; Bases, and Elaborate the applications HSAB principle.</p> <p>CO2-Discuss the molecular structures, physical and chemical properties of carbohydrates, amino acids, proteins and heterocyclic compounds.</p> <p>CO3- Elaborate the photo processes(Physical and chemical), application of fluorescence and phosphorescence and Deduce expression for kinetic of chemical reactions..</p> <p>CO4-Classify error and describe source of error, methods of minimization of errors, Concept of accuracy and precision. Explain reactions for carbanions, classify colloids and their applications.</p> |

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|---|--------|-------|---------------------------------|---|
| 5 | V      | BS506 | Spectroscopy and chromatography | <p>CO1-Explain the concept of Rotational infrared and Electronic spectroscopy using Beers Lamberts law .</p> <p>CO2-Explain principle and factors for NMR and Mass spectrometry.</p> <p>CO3- Discuss basic principle, instrumentisation experimental procedure for various chromatography techniques. Application of solvent extraction.</p> <p>CO4-Summarize various chromatographic methods with principle and instrumentation.</p> |
| 6 | V<br>I | BS601 | Advanced chemistry              | <p>CO1-Summaizes the terminology stabilities of complex compounds, description of clusters, Explain symmetry of molecules, various properties of solvents.</p> <p>CO2 – Describe concerted type of reactions, explain strategies to synthesize organic compounds, explain stereoselective reactions.</p> <p>CO3- Explains chemistry of polymers</p> <p>CO4- Explains various electro analytical methods and their applications</p>    |

Department of Bio-Chemistry

| S.NO | Semester | COURSE CODE | Course title  | Course outcomes  |
|------|----------|-------------|---|--|
| 1    | I        | BS104       | CHEMISTRY OF MOLECULES                                | CO1- Scope and basic concepts of biochemistry<br>CO2- Basic knowledge of amino acids and proteins<br>CO3-Basic knowledge of carbohydrates and its types<br>CO4- Basic knowledge of lipids and classification of lipids   |
| 2    | II       | BS204       | Chemistry of Nucleic acids and biochemical techniques | CO1-Learns about composition of nucleic acids, photochemical and structural characterization<br>CO2-Learns about structure of nucleic acids, DNA structure by Watson & Crick, Types of RNA, Biological significance<br>CO3- Learns about Spectrophotometric and electrophoresis techniques<br>CO4 – Learns about different types of chromatography and centrifugation techniques and their application                                 |
| 3    | III      | BS305       | Enzymology, Carbohydrate and lipid metabolism         | CO1 – Introduction to enzymology, nomenclature and classification of enzyme, purification of enzyme<br>CO2 – Learns about enzyme kinetics and enzyme action, enzyme inhibition<br>CO3-Learns about carbohydrate metabolism, TCA cycle, Glycolysis, light and dark reactions. Disorders of carbohydrate metabolism<br>CO4- Learns about lipid metabolism and biosynthesis of fatty acids, cholesterol and disorders of lipid metabolism |

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|---|----|-------|--|---|
| 4 | IV | BS405 | Amino acids, Nucleic acid metabolism, bioenergetics and biological oxidation | <p>CO1- Learns about amino acid metabolism, urea cycle, biosynthesis, creatinine, Inborn errors</p> <p>CO2- Learns about nucleic acid metabolism, biosynthesis of Purines and Pyrimidines, DNA, RNA, Disorders of nucleotide metabolisms</p> <p>CO3 – Learns about bioenergetics, Laws of thermodynamics, energy transformation, cytochrome structure</p> <p>CO4- Learns about biological oxidation, redox reaction, Ultra structure of mitochondria, ETC</p>   |
| 5 | V  | BS504 | Physiology, nutrition and clinical biochemistry                              | <p>CO1- Learns about physiology, digestion and absorption, Composition of blood, heart - structure of heart, structure of neuron</p> <p>CO2- Learns about Endocrinology, classification and organization of hormones. Mechanism of hormones, Chemistry and physiological roles and disorders of hormones</p> <p>CO3- Learns about nutrition, balanced diet, vitamins, obesity, RDA for children, adult, pregnant, lactating women</p> <p>CO4- Learns about Clinical biochemistry and organ function tests. Structure and function of liver. SGPT, Structure and function of nephron Renal function test</p> |
| 6 | VI | BS603 | Molecular biology and immunology   | <p>CO1- Learns about DNA replication, modes of replication, experimental evidences to prove DNA as genetic material nature and structure of genes</p> <p>CO2 – Learns about transcription and translation of prokaryotes and eukaryotes, post transcription and translational modification</p>  |

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|  |  |  |  | <p>modifications. Inhibitors of RNA synthesis and DNA synthesis</p> <p>CO3- Learns about immunology – Innate and acquired immunity, classification of immunoglobulin's, Epitopes</p> <p>CO4- Learns about immunotechnology ,immune diagnostics – RIA, ELISA. Vaccines and their classifications, antigen-antibody reactions</p> |
|--|--|--|--|---|

**DEPARTMENT OF MATHEMATICS**  
**B.Sc. MATHS**

|                            |   |
|----------------------------|---|
| <b>DEPARTMENT OF MATHS</b> | Acquired the skills in handling scientific instruments planning and performing in laboratory experiments.   |
| <b>PROGRAMME OUTCOMES</b>  | <ul style="list-style-type: none"> <li>• Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.</li> <li>• A student should get a relation ability to pursue advanced studies and research in pure and applied mathematical science.</li> <li>• I understanding of mathematical concepts and concerned structures, and should be able to follow the patterns involved, mathematical reasoning.</li> <li>• Ability to analyze a problem, identify and define the computing requirements, which may be appropriate to its solution.</li> <li>• Introduction to various courses like group theory, ring theory, field theory, metric spaces, number theory.</li> <li>• Enhancing students' overall development and to equip them with mathematical modeling abilities, problem solving skills, creative talent and power of communication necessary for various kinds of employment.</li> <li>• The skills of observations and drawing logical inferences from the scientific experiments.</li> <li>• Analyzed the given scientific data critically and systematically and the ability to draw the objective conclusions</li> <li>• Been able to think creatively to propose novel ideas in explaining facts and figures or providing new solutions to the problem</li> <li>• Realized how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments</li> </ul> |

DEPARTMENT OF MATHEMATICS  
B.SC I-YEAR , SEM-I  
PAPER -I

| COURSE TITLE          | HPW   |
|-----------------------|---|
| DIFFERENTIAL CALCULUS | 5 THEORY + 1 TUTORIAL   |
| COURSE OUTCOMES       | <ul style="list-style-type: none"> <li>• Find Maxima and minima of function of two variables.</li> <li>• Explain sub tangent and subnormal.</li> <li>• Find angle of intersection of two curves.</li> <li>• Find circle ,radius and centre of curvature .</li> <li>• Explain <math>\sin n\theta</math>, <math>\cos n\theta</math> and <math>\tan n\theta</math> by using Demoiver's theorem</li> <li>• Expand <math>\cos n\theta</math> , <math>\sin n\theta</math> and <math>\tan n\theta</math> in terms of <math>\theta</math></li> <li>• To able to calculate limits in indeterminate firms by a repeated use of L' Hospital rule.</li> <li>• To know the claim rule and use it to find derivatives of composite functions.</li> <li>• To able to evaluate integrals of rational functions by partial fractions.</li> </ul> |

PAPER -II

| COURSE TITLE           | HPW  |
|------------------------|--|
| DIFFERENTIAL EQUATIONS | 5 THEORY / 1 TUTORIAL CLASS  |
| COURSE OUTCOMES        | <ul style="list-style-type: none"> <li>• Identify different types of differential equations and solve them</li> <li>• Extract the solution of differential equations of the first order and of the first degree by variables separable, Homogeneous and non – homogeneous methods.</li> <li>• Find a solution of differential equations of the first order and of a degree higher than the first by using methods of solvable for <math>p, x</math> and <math>y</math></li> <li>• Compute all the solutions of second and higher order linear differential equations with constant coefficients linear equations with variable coefficients.</li> <li>• Solve simultaneous linear equations with constant coefficients and total differential equations.</li> <li>• Distinguish between linear, nonlinear, partial and ordinary differential equations.</li> <li>• Solve basic application problems described by second order linear differential equations.</li> <li>• Find the transforms of derivatives and integrals.</li> </ul> |

B.SC II -YEAR , SEM-III  
PAPER - III

|                 |   |
|-----------------|---|
| COURSE TITLE    | HPW   |
| REAL ANALYSIS   | 5THEORY+1TUTORIAL   |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• Describe the basic difference between the rational and real numbers.</li> <li>• Give the definition of concept related to metric spaces such as continuity, compactness, convergent etc.</li> <li>• Evaluate the limits of wide class of real sequences.</li> <li>• Understand and perform simple proofs.</li> <li>• Give the essence of the proof of Bolzano Weierstrass theorem the contraction theorem as well as existence of convergent subsequence using equicontinuity.</li> <li>• The course provides the basic for further studies with in function analysis, topology, function theory.</li> <li>• Students will be able to demonstrate basic knowledge of key topics in classical real analysis.</li> </ul> |

SEC-IIA

|                     |  |
|---------------------|--|
| COURSE TITLE        | HPW  |
| THEORY OF EQUATIONS | 2 HOURS  |
| COURSE OUTCOMES     | <ul style="list-style-type: none"> <li>• Describe the relation between roots and coefficients</li> <li>• Find the sum of the power of the roots of an equation using Newton's Method.</li> <li>• Transform the equation through roots multiplied by a given number, increase the roots, and decrease the roots, removal of terms.</li> <li>• Solve the reciprocal equations.</li> <li>• Analyze the location and describe the nature of the roots of an equation</li> <li>• Obtain integral roots of an equation by using Newton's Method.</li> <li>• Compute a real root of an equation by Horner's method</li> <li>• Illustrate the Division and Euclidean Algorithm</li> <li>• Describe the properties of prime numbers</li> <li>• Show that every positive integer can be expressed as product of prime power in unique way.</li> <li>• Write a formula for the number of positive integers less than n that are relatively prime to n.</li> </ul> |

SEC-IIB

|                 |   |
|-----------------|---|
| COURSE TITLE    | HPW   |
| LOGIC AND SETS  | 2 HOURS   |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• Properly use the vocabulary and symbolic notation of higher mathematics in definitions, theorems, and problems</li> <li>• Analyze the logical structure of statements symbolically, including the proper use of logical connectives, predicates, and quantifiers.</li> <li>• Construct truth tables, prove or disprove a hypothesis, and evaluate the truth of a statement using the principles of logic.</li> <li>• Solve problems and write proofs using the concepts of set theory.</li> <li>• Solve problems and write proofs using the basic definitions and the fundamental properties of subsets and operations on the real numbers, integers, rational and irrational, even and odd, multiples or factors of whole numbers.</li> </ul> |

DEPARTMENT OF MATHEMATICS  
B.SC II -YEAR , SEM-IV  
PAPER - IV

|                 |   |
|-----------------|---|
| COURSE TITLE    | HPW   |
| ALGEBRA         | 5 THEORY+1 TUTORIAL   |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• Recognize the mathematical object called groups</li> <li>• Link fundamental concepts of groups' symmetries of geometrical objects.</li> <li>• Explain the significance of notions of cosets, normal subgroups and factor groups.</li> <li>• Analyze consequences of Lagrange's theorem.</li> <li>• Learn about structure preserving maps between groups and their consequences.</li> <li>• Understand the basic concepts of group actions and their applications.</li> <li>• Recognize and use the Sylow's theorems to characterize certain finite groups.</li> <li>• Know the fundamental concepts in ring theory such as the concept of ideals, quotient rings, integral domains and field.</li> </ul> |

SEC IV A

| COURSE TITLE    | HPW   |
|-----------------|---|
| Number Theory   | 2 THEORY  |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• Define the concept of divisibility.</li> <li>• Define the concept of prime number.</li> <li>• Explain division algorithm.</li> <li>• Explain Euclid's algorithm.</li> <li>• Explain the greatest common divisor.</li> <li>• Explain the concept of congruence.</li> <li>• Explain the concepts of linear congruence and quadratic linear congruence.</li> <li>• Explain Fermat's Theorem, Euler's Theorem and Pie function.</li> </ul> |

SEC IV B

| COURSE TITLE    | HPW  |
|-----------------|--|
| Vector Calculus | 2 THEORY   |
| COURSE OUTCOMES | <ul style="list-style-type: none"> <li>• Define vector equation for lines and planes</li> <li>• Analyze vector functions to find limits, derivatives, tangent lines, integrals, arc length, curvature, torsion</li> <li>• Compute limits and derivatives of functions of two and three variables</li> <li>• Differentiate vector fields</li> <li>• Determine gradient vector fields and find potential functions</li> <li>• Evaluate line integrals, surface area and surface integrals</li> <li>• Vector calculus motivates the study of vector differentiation and integration in two and three dimensional spaces.</li> </ul> |

DEPARTMENT OF MATHEMATICS  
B.SC III -YEAR , SEM-V

SEC -III(E)

| COURSE TITLE               | HPW   |
|----------------------------|---|
| PROBABILITY AND STATISTICS | 2 THEORY  |
| COURSE OUTCOMES            | <ul style="list-style-type: none"> <li>• Express the concept of factorial and the basic principal of counting.</li> <li>• Solve the about permutations combination and binomial theorem .</li> <li>• Express the concept of probability and its futures .</li> <li>• Express the concept of random event .</li> </ul> |

|                        |   |
|------------------------|---|
|                        | <ul style="list-style-type: none"> <li>• Calculate the expected value of a random variable .</li> <li>• Define the discrete distributions , continuous distribution and solve the problems about these distributions.</li> <li>• Explain major distributions of random variables.</li> </ul>  |
| SEC –III(F)            |   |
| COURSE TITLE           | HPW   |
| MATHEMATICAL MODELLING | 2 THEORY  |
| COURSE OUTCOMES        | <ul style="list-style-type: none"> <li>• Apply mathematical concepts including calculus , linear algebra and differential equations to analyze specific problems</li> <li>• Use computer programming and statistical analysis skills to efficiently model systems.</li> <li>• Recognize the connections between mathematics and other disciplines, and how mathematical ideas are embedded in other contexts.</li> <li>• Represent real-world systems from science and technology in a mathematical framework.</li> <li>• Extend their experiences of working both independently and collaboratively within the discipline to other contexts.</li> <li>• Reflect the professional standards of the discipline and of science in their own work and practice.</li> </ul> |
| GE -1                  |   |
| COURSE TITLE           | HPW   |
| LATTICE THEORY         | 2 THEORY  |
| COURSE OUTCOMES        | <ul style="list-style-type: none"> <li>• To apply the concepts of partially order sets , lattices in general.</li> <li>• Apply complete lattices , distributive and modular lattices and Boolean algebras .</li> <li>• The concepts of lattice theory are applied in various field with in mathematics , mechanics in physics .</li> <li>• Also applied the concept of lattices in computer science .</li> <li>• Apply their knowledge to solve some problems on switching circuits.</li> </ul>   |
| PAPER -V               |   |
| COURSE TITLE           | HPW   |
| LINEAR ALGEBRA         | 3 THEORY +2 PRACTICAL   |
| COURSE OUTCOMES        | <ul style="list-style-type: none"> <li>• Linear algebra emphasizes the concept of vector spaces and linear transformations which are essential in simplifying various scientific problems .</li> <li>• It aims at inculcating problem solving skills with in student to enable them compute large linear systems</li> </ul>   |

|                              |  |
|------------------------------|--|
|                              | <ul style="list-style-type: none"> <li>• The practical applications of linear algebra are in demography , archaeology , electrical engineering traffic analysis</li> <li>• Express vector spaces in different dimensions</li> <li>• Explain two vectors are orthogonal</li> <li>• Express that a set is orthogonal and orthonormal</li> <li>• Express the row and column space of a matrix</li> <li>• Explain eigen values and eigen vectors of a linear transformation</li> <li>• Explain when a transformation matrix can we written in the form of a diagonal matrix</li> </ul>   |
| PAPER -VI                    |  |
| COURSE TITLE                 | HPW  |
| SOLID GEOMETRY (DSE-1E/A)    | 3 THEORY +2 PRACTICAL  |
| COURSE OUTCOMES              | <ul style="list-style-type: none"> <li>• Find centre and radius of sphere and circles</li> <li>• Find family of spheres passing through a circle, tangent planes and normal lines to sphere</li> <li>• Identify different conchoids and sketch them</li> <li>• Understand relationship between different co-ordinate system and plot the curve in spherical ,cylindrical polar co-ordinates</li> <li>• Obtain equation of cone ,enveloping cone ,cylinder ,right circular cylinder, enveloping cylinder and prove their results</li> <li>• Find equation of tangent plane ,reciprocal cone of given cone</li> <li>• Understand the beautiful interplay between algebra and geometry</li> </ul> |
| PAPER -VI                    |  |
| COURSE TITLE                 | HPW  |
| INTEGRAL CALCULUS (DSE-1E/B) | 3 THEOY + 2 PRACTICAL  |
| COURSE OUTCOMES              | <ul style="list-style-type: none"> <li>• Evaluate the area of surfaces of revolution .</li> <li>• Determine the area of and volume by applying the techniques of double and triple integrals</li> <li>• Identify different types differential equations and solve them .</li> <li>• Define volumes of solid of revolution .</li> <li>• Explain change of order of integration .</li> <li>• Evaluate change of the variable in a multiple inferable.</li> <li>• Solve different types of triple integral sums.</li> </ul>   |

DEPARTMENT OF MATHEMATICS

B.SC III -YEAR , SEM-VI

|                           |      |  |
|---------------------------|------|--|
| 4G                        | SEC- |  |
| COURSE TITLE              |      | HPW  |
| BOOLEAN ALGEBRA           |      | 2 THEORY   |
| COURSE OUTCOMES           |      | <ul style="list-style-type: none"> <li>• Use truth tables and loss of identity ,distributive ,commutative and domination</li> <li>• Compute sum of products and product of sum expansions</li> <li>• Convert Boolean expressions to logic gates and vice versa</li> <li>• Discuss different simplification method for Boolean functions</li> <li>• Recall various logic gates and the rules of Boolean algebra</li> <li>• Realize the combinational and sequential circuits by using logical blocks</li> </ul>   |
| SEC-4H                    |      |  |
| COURSE TITLE              |      | HPW  |
| GRAPH THEORY              |      | 2 THEORY   |
| COURSE OUTCOMES           |      | <ul style="list-style-type: none"> <li>• Able to define the basic concepts of graphs ,directed graphs and weighted graphs</li> <li>• Able to understand Eulerian circuit and Hamiltonian circuits</li> <li>• Understand the concepts of plane graph and theory</li> <li>• Solve problems involving vertex and edge connectivity.</li> <li>• Model real world problem using graph theory.</li> </ul>  |
| GE -2                     |      |  |
| COURSE TITLE              |      | HPW  |
| ELEMENTS OF NUMBER THEORY |      | 2 THEORY   |
| COURSE OUTCOMES           |      | <ul style="list-style-type: none"> <li>• Explain the concepts of divisibility, prime number, congruence and number theorems.</li> <li>• Explain division algorithm.</li> <li>• Explain Euclid's algorithm.</li> <li>• Explain the greatest common divisor.</li> <li>• Express the concept of congruence with its qualities.</li> <li>• Explain the concepts of linear congruence and quadric linear congruence.</li> <li>• Explain Fermat's Theorem and Wilson's Theorem..</li> <li>• Demonstrate uniqueness of distinguishing to prime number factors at integers..</li> <li>• Use Fermat's Theorem and Wilson's</li> </ul> |

|                         |   |
|-------------------------|---|
|                         | Theorem.  |
| PAPER – VII (DSE -1F)   |   |
| COURSE TITLE            | HPW   |
| NUMERICAL ANALYSIS      | 3 THEORY+2 PRACTICAL  |
| COURSE OUTCOMES         | <ul style="list-style-type: none"> <li>• Learn various numerical methods to solve algebraic and transcendental equations</li> <li>• Understand forward ,backward and central differences and relationships between them</li> <li>• Learns divided difference its properties and use Newton’s formula to for interpolation .</li> <li>• Learn numerical differentiation and able to use various numerical methods to find differentiation .</li> <li>• Approximate a function using and appropriate numerical method .</li> <li>• Solve a linear system of equation using and appropriate numerical method .</li> <li>• Prove results for numerical route finding methods .</li> <li>• Calculate a definite integral using and appropriate numerical method .</li> </ul> |
| PAPER- VIII (DSE -1F/A) |   |
| COURSE TITLE            | HPW   |
| COMPLEX ANALYSIS        | 3 THEORY+2 PRACTICAL  |
| COURSE OUTCOMES         | <ul style="list-style-type: none"> <li>• Define the concepts of derivation of analytic functions.</li> <li>• Calculate the analytic functions.</li> <li>• Express the Cauchy’s Derivative formulas.</li> <li>• Define the concept of Cauchy-Goursat Integral Theorem</li> <li>• Evaluate complex integrals by using Cauchy-Goursat Integral Theorem</li> <li>• Define the simple and multiple connected domains.</li> <li>• Express Liouville’s theorem and the fundamental theorem of the algebra.</li> <li>• Explain fundamental theorem algebra and maximum modules principle.</li> </ul>  |
| PAPER- VIII (DSE -1F/B) |   |
| COURSE TITLE            | HPW   |
| VECTOR CALCULUS         | 3 THEORY+2 PRACTICAL  |
| COURSE OUTCOMES         | <ul style="list-style-type: none"> <li>• Define vector equation for lines and planes.</li> </ul>  |

|  |   |
|--|---|
|  | <ul style="list-style-type: none"><li>• Analyze vector functions to find limits , derivatives , tangent lines , integrals , arc length ,curvature.</li><li>• Compute limits and derivatives of functions of two and three variables .</li><li>• Differentiate vector fields.</li><li>• Determine gradient vector fields and find potential functions .</li><li>• Calculate work , circulation flux and verify path independence .</li><li>• Evaluate line integrals, surface area and surface integrals .</li></ul> |
|--|---|